

Appln. No. 09/917,147
Amdt. Dated July 28, 2003
Reply to Office Action of May 1, 2003
And Advisory Action of July 15, 2003
Attorney Docket No.: MSU 4.1-553

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

-1- (Currently Amended)

1 A mesostructured crystalline hydrated alumina
2 composition which is microporous and consists essentially
3 of boehmite, pseudoboehmite and mixtures thereof
4 selected from the group consisting of gamma alumina,
5 boehmite, and mixtures thereof and exhibiting at least
6 one low angle x-ray diffraction line corresponding to a
7 lattice spacing of at least 2.0 nm and multiple wide
8 angle x-ray diffraction lines with CuK α radiation wherein
9 λ is 0.1541 nm corresponding to an ordered lattice
10 comprised of oxygen atoms and hydroxide groups with
11 aluminum in interstitial positions within the lattice,
12 wherein the surface area is at least 200 m²/g; and wherein
13 the pore volume is at least 0.40 cm³/g.

Claim 2 (Cancelled)

-3- (Currently Amended)

1 A mesostructured crystalline hydrated alumina
2 ~~and organic modifier composite composition with mesopores~~
3 containing an organic modifier in the mesopores of the
4 alumina wherein the alumina composition consists
5 essentially of boehmite, pseudoboehmite and mixtures
6 thereof is selected from the group consisting of gamma
7 alumina, boehmite, and mixtures thereof and exhibits at
8 least one low angle x-ray diffraction line corresponding
9 to a lattice spacing of at least 2.0 nm and multiple wide
10 angle x-ray diffraction lines corresponding to an ordered
11 lattice comprised of oxygen atoms and hydroxide groups
12 with aluminum in interstitial positions within the
13 lattice.

-4- (Currently Amended)

1 The composition of Claim 3 wherein the organic
2 modifier ~~component~~ is a non-ionic surfactant.

-5- (Previously Amended)

1 The composition of Claim 4 wherein the
2 surfactant is selected from the group consisting of a
3 polyethylene oxide block co-polymer, an alkylene amine;
4 an alkylene polyamine, a polypropylene oxide amine, a
5 polypropylene oxide polyamine and mixtures thereof.

-6- (Previously Amended)

1 The composition of any one of Claims 3, 4 or 5
2 wherein the hydrated alumina component is boehmite.

-7- (Currently Amended)

1 A mesostructured crystalline transition alumina
2 composition comprising gamma alumina selected from the
3 group consisting of gamma alumina, boehmite, and mixtures
4 thereof and:

5 wherein the composition exhibits at least one
6 low angle x-ray diffraction line corresponding to a
7 lattice spacing of at least 2.0 nm and multiple wide
8 angle x-ray diffraction lines with CuK α radiation wherein
9 where λ is 0.1541 nm corresponding to an ordered oxygen
10 atom lattice with aluminum in interstitial positions
11 within the lattice, wherein the surface area is at least
12 200 m²/g; and wherein the pore volume is at least 0.40
13 cm³/g.

-8- (Currently Amended)

1 The mesostructured transition alumina of Claim
2 7 wherein the transition alumina consists essentially of
3 comprises gamma alumina.

Claims 9-26 (Withdrawn)